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SOCIOMETRIC FORMATION AND EFFECTIVENESS OF GROUPS IN A FARM MANAGEMENT PROGRAM. EXTENSION STUDY, NUMBER 2.

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THE EXTENSION AGENT CONDUCTING THE FARM AND HOME MANAGEMENT PROGRAM FOR FARMERS AND THEIR WIVES IN A NEW YORK COUNTY BEGAN USING SMALL EXPERIMENTAL STUDY GROUPS IN THE SECOND YEAR OF THE PROGRAM. USE OF SOCIOMETRIC TECHNIQUES FOR FORMING THESE GROUPS RESULTED IN REDISTRIBUTION OF THE 15 MEMBERS OF TWO ORIGINAL GROUPS TO FIVE DIFFERENT GROUPS AND IN THE RECRUITMENT OF TEN NEW MEMBERS FOR THE FIVE GROUPS. LITTLE CHANGE OCCURRED IN THE MEMBERSHIP OF THE SMALLER ORIGINAL GROUP, WHOSE FIVE MEMBERS CAME FROM A SMALL SECTOR OF THE TOWNSHIP. TEN MEMBERS OF THE LARGER ORIGINAL GROUP, PLACED BY USE OF SOCIOGRAMED CHOICES, WERE REGROUPED IN FOUR DIFFERENT GROUPS. COMPOSITION OF THE NEW GROUPS CORRELATED CLOSELY WITH NEIGHBORHOOD AND AREA LEADERSHIP PATTERNS. ONE YEAR LATER, NO SIGNIFICANT BEHAVIOR CHANGE WAS NOTED IN THE SMALL GROUP, WHICH FUNCTIONED SATISFACTORILY BOTH BEFORE AND AFTER THE SURVEY, BUT MEMBERS OF THE LARGER GROUP SHOWED GREATLY IMPROVED COMMUNICATION AND COHESIVENESS. ALTHOUGH OBJECTIVE MEASURES OF SUBJECT MATTER LEARNING WERE NOT PROVIDED, EXTENSION AGENTS GAVE A HIGHLY FAVORABLE EVALUATION OF BEHAVIOR CHANGES PRODUCED BY THE REDISTRIBUTION OF STUDY GROUPS. THE DOCUMENT INCLUDES ONE CHART, ONE TABLE, AND FOOTNOTES. (LY)

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SOCIOMETRIC FORMATION AND EFFECTIVENESS OF GROUPS IN A FARM MANAGEMENT PROGRAM

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SOCIOMETRIC FORMATION AND EFFECTIVENESS OF GROUPS IN A FARM MANAGEMENT PROGRAM

Introduction

Sociometric methods have been used extensively in elementary, secondary, and college classes and groups.[1] Research personnel have used the techniques in studying social interaction in military, business, industrial, and camping groups.[2] Little, if any, use has been made of these techniques in adult education and with adult Extension members.

The method has advantages for use in adult education programs. Detrimental effects of social cliques, social cleavages, social rejection and isolation, large differences in social status, etc., on optimal learning of persons in the same groups are recognized by educational psychologists.[3] In adult education programs this technique avoids many of these detrimental effects by the simple and easily administered expedient of allowing persons to choose with whom they would like to work and in some cases with whom they would not like to work.[4]

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1 Gronlund, Norman E., Sociometry in the Classroom, Harper & Brothers, New York, 1959, p. 2.

2 Lindzey, G., and Borgatta, E. F., "Sociometric Measurement", in Lindzey (ed.), Handbook of Social Psychology, Vol. I, Addison-Wesley, Cambridge, 1954, Chap. 11.

3 Lindgren, H. C., Educational Psychology in the Classroom, John Wiley and Sons, New York, 1956, Chap. 5; and Blair, G. M., Jones, R. S., and Simpson, R. H., Educational Psychology, MacMillan Company, New York, 1954, Chap. 11.

4 Whether both choices and rejections are used will depend on purposes of the investigation and knowledge of existing social conditions.

The method can "provide a much higher degree of interest and motivation on the part of participant subjects...The possibility that his environment may be manipulated so as to comply with his wishes encourages a high degree of interest and cooperativeness on the part of the respondent...;...the demands imposed by many empirical problems, make it necessary...to study the individual and his social enrivronment simultaneously."[1] This is especially true when data must be obtained and interpreted in a short period of time, as for data gathered to assist in organizing an educational program. This dual function is crucial; program personnel who do field interviews do not have time, and many have no interest, for research beyond what is required for programming. In using sociometrics, the individual and his social environment are studied simultaneously and results are readily interpreted to and comprehended by program personnel. The method, properly used, having been tested for reliability and validity of results, can be used with confidence.[2]

Problem Background

The Extension agent conducting the Farm and Home Management Program in a New York county began using small experimental study groups in the second year of the program.[3] This paper reports group formation in one township.

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1 Lindzey and Borgatta, op. cit., p. 406.

2 Gronlund, op. cit., and Lindzey and Borgatta, op. cit.

3 The Farm and Home Management Program in New York State is an intensive Extension educational program based on well kept farm records, analysis of records, and subsequent programming to improve the business.

Subsequent use of sociometric techniques in forming study groups in other towns in this county and in other counties support findings reported for this township.

When the agent began work in the township, he formed two small groups; one group was composed of 10 families and the other of five families. Group I with 10 families drew members from all sectors of the township; group II with five families drew members from a small section of the township. Initial group formation was on the basis of individuals' desire to meet evenings or afternoons.

Husbands and wives in group I were not participating satisfactorily; husbands and wives in group II were attending and participating in a satisfactory manner. The agent requested the Office of Extension Studies[1] to assist in developing a method for forming effective study groups. The Extension Studies Office developed the technique for determining small study groups, and the agent interviewed farm operators. Actual study groups were determined by the Extension Studies Office.

Methodology

The 15 farm operators participating in the program and a stratified random sample of 15 other operators were interviewed. Twelve additional operators who had indicated interest in the program were interviewed.

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1 The Office of Extension Studies is a research unit of the New York State Extension Service and is responsible for conducting or assisting with Extension studies.

A total of 42 operators, 44 per cent of the 96 operators living in the township, was interviewed.[1]

The questionnaire was designed: (1) to obtain the operators' choices of persons they would like in a small group to discuss and work on farm management problems, (2) to determine leaders in the township, (3) to determine neighbor groups, and (4) to determine management practices, diffusion of practices learned in the program, adoption rates, and important operator and farm characteristics.

Neighbor choices and operators' choices of work group members were sociogramed;[2] both work and neighborhood groups were determined.[3]

One year later, the agent was interviewed concerning changes in behavior of operators placed in groups with operators of their choice. He was asked a series of 12 questions about each operator in the two original groups.

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1 Since this initial experiment, the policy has been to interview all eligible farm operators rather than a sample. An eligible operator is under 60 years of age and milking 20 or more cows.

2 In general, sociogramed choices of these operators conform to criteria recognized by others as necessary for valid results. Gronlund sets forth the following criteria which this study meets adequately: "1. Clearly indicates the nature of the activity or situation for which the individual is choosing associates. 2. Is based on an activity or situation familiar to the group members and one on which they have real opportunity for association. 3. Is general enough to minimize the influence of situational factors and skills associated with specific activities. 4. Is based on relationships that are strong, fundamental, and relatively permanent. 5. Provides for reciprocal choice and mutual association among the group members." (op. cit., p. 46.)

3 No limit was placed on the number of choices each operator could make. Past research indicates the most reliable results are obtained from unlimited choices (Gronlund, op. cit., p. 148). For purposes of forming small groups of farm families it was felt unlimited choice would provide for more certainty in placing operators.

Results

Formation of study groups

There were five new study groups determined. The two original groups contained a total of 15 families; the five new groups had a total of 25 families. The survey resulted in the addition of 10 new families.[1]

Four of the five members of original group II remained in that group by mutual choice (Figure 1). Three new participants joined this group of four for a total of seven members. The fifth member of this original group, by his choice and choices of others for him, moved to one of the new groups. The main difference in satisfactory group II was the addition of three members not previously participating in the program. The 10 members of original group I were reorganized into four groups.

Neighborhood and neighborhood leadership structures support study groups formed by sociometric method

Neighborhood sociogram analysis resulted in delineation of six neighborhoods in the township. The two original study groups and five study groups formed by sociogramed choices were plotted on a map of the neighborhoods.

Study group II had three of the original five members in one neighborhood. The other two operators were nearby in adjoining neighborhoods. This group was reorganized from survey results, dropping one original member and adding three new ones; members now resided primarily in two adjoining

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1 A number of other operators were assigned to each group from survey and sociogram analysis. Only those who became active members are discussed and listed in Figure 1.

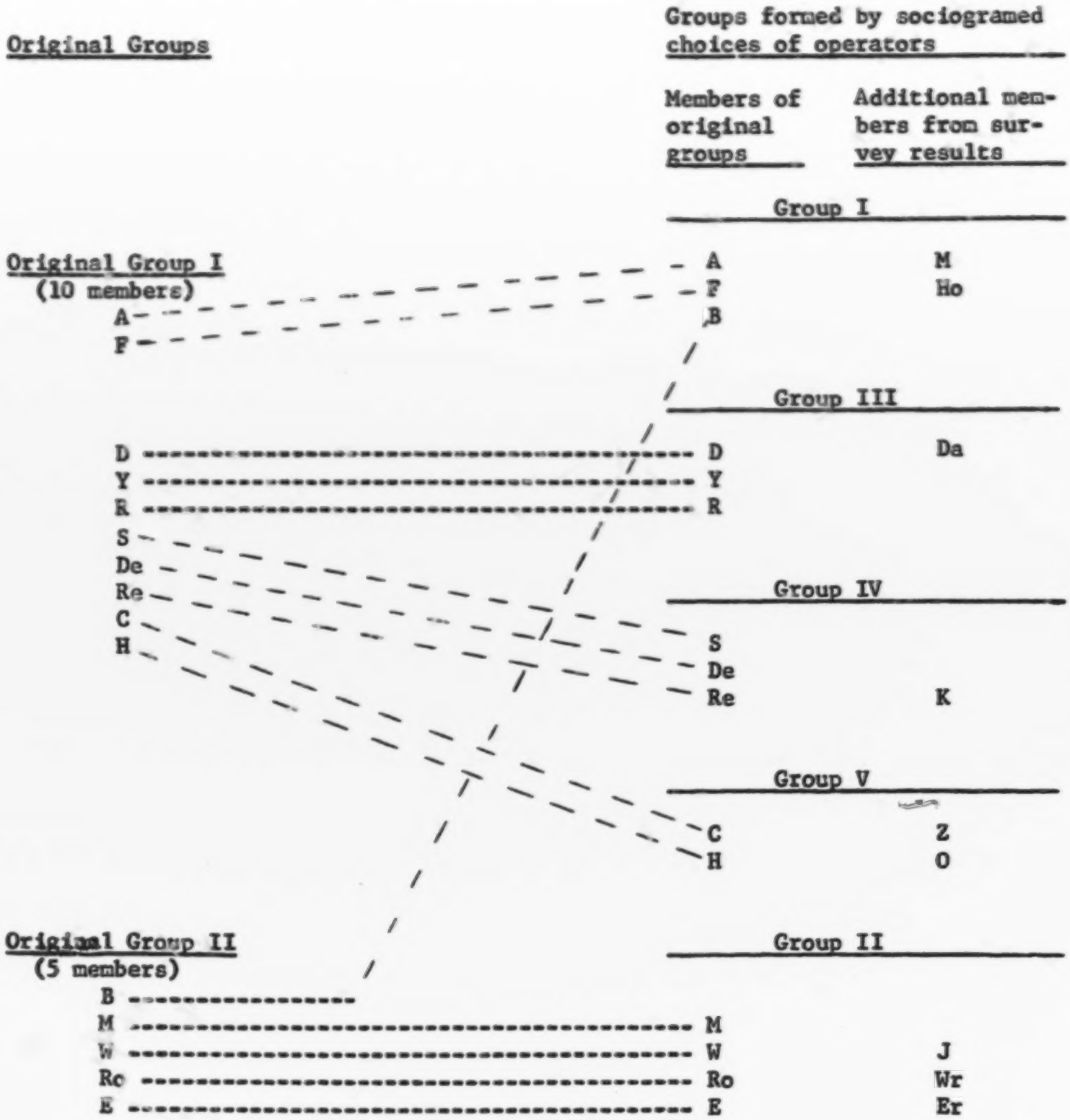

Figure 1. Redistribution of Membership of the Two Original Groups and Distribution of New Participants into Five Groups by Sociograming Choices of Operators for Those They Wanted in Their Study Group.

neighborhoods with one member just over the line in a third adjoining neighborhood. Reorganization of this group made it more geographically compact than it had been. There was no significant difference in participation and attendance of group members when before and after survey results were compared; this small group, whose members resided in close proximity, was effective both before and after the survey.

Results of sociograming original group I members were different from results for group II. Members of group I were from all parts of the township. Plotted over the neighborhoods, one or more of the original 10 group members were in each of six different area neighborhoods. Four new groups, in which these 10 members were regrouped, were mapped; a majority of members of each group was in only one of four different neighborhoods. Two of the groups had all members within one of two different neighborhoods. The other two groups had all but one member in one of two additional neighborhoods. The exception in each group was close by in an adjoining neighborhood.

Original group I failed to conform to the neighborhood pattern of the township; each of the four new groups, including some original members of group I, consisted of persons in the same or nearby neighborhoods.

Original group I had combined persons from several neighborhoods who were not acquainted or sufficiently congenial to be willing to attend meetings regularly and freely discuss businesses and problems in the group. Neighborhood relationships, or at least propinquity, is important in determining groups in which farmers are willing to work.

To determine how leadership choices supported sociometrically delineated study groups, analysis was made indirectly by examination of the

extent to which leadership choices were for persons in the choosers' neighborhood. There were different choice patterns for different leaders. Some leaders received more than 50 per cent of all choices for leadership [1] from operators in their neighborhood, and were designated neighborhood leaders. A few leaders received more than 50 per cent of their choices from persons outside their own neighborhoods. Providing some choices were from all or most of the neighborhoods, these leaders were classified as area leaders.[2] A few leaders had strong support from both neighbors and persons outside their neighborhoods; these were both area and neighborhood leaders. About 50 per cent of leadership choices were from persons living in the same neighborhood as the person chosen. If choices for area leaders (by definition having more than 50 per cent of choices from persons outside their own neighborhood) are ignored, 64 per cent of choices were for persons living in the same neighborhood. Choices for leaders tend to be for persons in

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1 Operators were asked to name two or three operators whom they (1) talked with about their farm problems, (2) would select to represent the township on a county committee to improve conditions for farmers, and (3) would select as young farm operators (under 35) whom they considered good up-and-coming farm leaders. Operators who received most cumulated choices on these questions were designated leaders.

2 Of further interest is the fact that neighborhood leaders received most choices as persons talked with about farm problems while area leaders received most choices as persons to represent farmers at the county level. This supports the theory that leadership tends to be functional and that a man who is a leader for one purpose may or may not be best suited to give direction and guidance to other functions. At least in this township, operators tended to choose different persons for the two types of leadership functions. This relationship was also found in another three-township area in this same county. This second area was surveyed with the same questionnaire following completion of the study of this township.

the same neighborhood, except for those few who are area leaders.

Since choices for both leaders and study group members tend to be for persons in the same neighborhood, a fair degree of success in operations of study groups could be predicted.[1] The next section examines this prediction.

Changes in Amount and Types of Participation

One year after new study groups were formed, the agent in charge of the program provided information on changes in each participant's attendance and participation. No significant changes had occurred in participation of the five operators of satisfactory original group II. This was true for the operator who went into a different group as well as for the four who continued as members of group II.[2]

In contrast, there were definite changes in amount and types of participation of members in pre-survey group I. The agent reported on 12 specific activities or responses for each of nine operators.[3] The number of operators more active or responsive on specific items ranged from seven to one (Table 1). Over 50 per cent of the operators were more active or responsive

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1 Since neighbor and leadership relationships tend to be stable, and group choices are correlated with these relationships, it would seem that, if retested, group choices also would show a marked degree of stability (reliability). Studies in schools have indicated that greater stability is characteristic of older age groups of school children (Gronlund, op. cit., p. 123). The above results are an indication that stability may be even greater for adults living in established communities.

2 The agent reported that this was true for 12 specific activities or responses for the group as a whole.

3 One of the 10 operators of this group stopped farming shortly after the survey so only nine operators are included in results reported.

Table 1. Number of Operators Reported as Either More, the Same, or Less Active or Responsive in Sociometrically Formed Groups Than They Had Been in Original Group I.

Activities or responses	Number of operators reported as: More	Same	Less
1. Willing to disclose facts about farm business to other operators in group.	7	2	-
2. Feel at ease.	6	3	0
3. Make contributions to effectiveness of group.	6	3	0
4. Receive agreement from others.	6	2	1
5. Receptive to suggestions from agent.	5	4	0
6. Talking and asking personally helpful questions.	4	5	0
7. Asking questions that help the group.	4	5	0
8. Interest in program.	4	5	0
9. Asking for others' opinions.	2	7	0
10. Regular attendance.	2	7	0
11. Receptive to suggestions from other operators.	2	6	1
12. Willingness to disclose facts about business to agent.	1	8	-

on items 1 through 5 and nearly 50 per cent were more active or responsive on items 6, 7, and 8. Most operators listed in Table 1 as the same had always been satisfactory on that type of activity or response. Practically all operators needing improvement on any of 12 types of activities or responses did improve when placed with operators whom they chose. Items on which there was

most improvement were types of activities and responses which indicated that sociometrically formed groups provided freer communication, greater cohesiveness, and more give-and-take between group members. (Table 1) The agent explained that the five operators more "receptive to suggestions from the agent" were more receptive because of difference in communication and cohesiveness of the newly formed groups. He is convinced that sociometrically formed groups bring about stronger commitments to act in accordance with group decisions than did the original groups.

Changes in types and amounts of activities and responses of wives are not included in Table 1 because this was not systematically asked for in the interview with the agent. However, he reported even more dramatic changes in activities and responses of several wives than in those of operators. In fact, his dissatisfaction with attendance of original group I members was primarily related to low attendance of wives. Wives were often the bookkeepers and otherwise "partners" in farm management.

Summary and Implications

Use of sociometric techniques for forming small groups resulted in redistribution of the 15 members of two original groups to five different groups, and in recruitment of 10 new members for a total of 25 members in the five groups. Little change occurred in membership of the smaller original group, which drew its five members from a small sector of the township. Ten members of the larger original group, placed by use of sociogramed choices, were regrouped in four different groups. Members of this original group were drawn from several neighborhoods; each had its own leaders.

Member composition of the new groups was highly correlated with neighborhood and area leadership patterns; most members of each group resided in the same neighborhood.

One year after sociometric formation of groups, changes in observed behavior of members of the original groups were recorded. No significant behavioral changes resulted for members of the small group which functioned satisfactorily both before and after the survey. There was considerable change in behavior of members of the larger group. Changes observed indicated substantial improvement in communication, cohesiveness, and give-and-take with members of the new groups.

These changes were helpful in increasing effectiveness of the agent's educational program. Heightened effectiveness is undoubtedly the result of improvement in group interaction of mutually acceptable persons.

While the study does not provide objective measurement of learning of subjects studied, it definitely shows that the educator (agent) gave a highly favorable evaluation of changes in subjects' behavior resulting from redistribution to study groups by means of sociometric techniques. A more favorable environment for learning seems to have been created by use of these techniques.

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